STRUCTURE 129

This structure is a pumping plant, consisting of three pumping units and a corrugated metal pipe culvert spillway which controls flows which bypass the pumps. Structure 129 is located on the northwest shore of Lake Okeechobee in the alinement of Levee 49. It is just south of State Road 78 and about 20 miles southwest of the town of Okeechobee. The structure consists of a pumping and an outlet unit. The pumping unit is a reinforced concrete structure with a concrete block superstructure. The outlet unit is a U-shaped structure of reinforced concrete sides and bottom.

PURPOSE

Lake Okeechobee Northwest Shore Levees, together with higher lake stages, restrict natural drainage to the lake. This structure removes the otherwise impounded water at a rate of as much as 3/4 inch of runoff per day from the tributary drainage area.

OPERATION

The spillway will be used to allow gravity discharge during periods when Lake Okeechobee stage is below elevation 13.0. This pipe spillway can also be used during drought conditions to provide water for the tributary area when the lake stage is above the intake canal water level. Normally, pumping will be initiated when the headwater elevation reaches 13.5 and terminated when it falls to 12.75. In response to heavy rainfall, all pumping units may be placed in operation and the stage lowered to and maintained at 12.5 until the storm has passed. The spillway gate shall be closed at all times when the lake level is above intake canal water level except when backflow for irrigation purposes is desirable during a drought period.

For the normal range of pumping heads, the engine should be run at a constant governed speed of 1200 r.p.m.

After the pump is stopped, the vacuum breaker valve is opened to permit the water column in the pump to drop to pool level and the water in the discharge pipe to drop to the lower of the lake or invert elevation.

FLOOD DISCHARGE CHARACTERISTICS

	Pump Design
Discharge Rate	375 cfs
Headwater Elevation	13.0 feet
Tailwater Elevation	23.5 feet
Type Discharge	Pumped

DESCRIPTION OF STRUCTURE

Type Three pumping units and one gated CMP culvert spillway in a reinforced concrete block structure.

Spillway

Number of barrels one

Size of barrels 96" diameter

Length of barrels 119 feet "

Flow line elevation 6.0 to 5.0 feet

Service bridge elevation 24.8 feet

Water Level which will bypass structure 32.5 feet

Gates

Number 2

Type slide gate, upstream; flap gate, downstream

Size 96 inch diameter

Control Manual

Lifting Mechanism pedestal mounted, manually operated hand wheel on head gate stem, hand wheel operated winch, which operates cable and drum

Pumping Station

Number of Pumps 3

Size & Type of Pumps 48" vertical, axial flow

Design rating 125 cfs each

Impeller speed 390 r.p.m.

Pump manufacturer Johnson Pump Co.

Engine Make & Type Caterpillar, D-342, 6 cylinder, in-line diesel

Engine Horsepower 225 each

Engine Speed 1200 r.p.m.

Gates (per bay)

Number one

Type flap, downstream

Size 48 inch diameter

Control none

Lifting Mechanism none

Electric Power Source

Normal Commercial electricity

Emergency Diesel engine driven electric generator

Date of Transfer: November 29, 1963

ACCESS from State Road 78W via about 1 mile of access road

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorder

Gate Position Recorder Remote digital recorder

Engine Tachometer Remote digital recorder

DEWATERING FACILITIES - None